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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,768	05/04/2001	Kurt J. Kruger	STT-0003	9872

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EXAMINER
PECHHOLD, ALEXANDRA K

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 01/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/849,768	KRUGER ET AL.	
	Examiner	Art Unit	
	Alexandra K Pechhold	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *5/4/01* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the direction" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said inner height" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "said corregations" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitation "said flange" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show h_i as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Correction is required.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: W_o. Correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiTullio (US 5,087,151) in view of Fouss et al (US 4,360,042).

Regarding claim 1, DiTullio discloses a fluid management system comprising a first chamber seen in Fig. 1. Fouss teaches a semicircular, constant curve cross-sectional geometry for a fluid management system to provide the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shape of the chamber of DiTullio to be a semicircular, constant curve cross-sectional geometry as taught by Fouss, since Fouss states that such a shape provides the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48).

Regarding claims 2, 3, and 4, DiTullio discloses that a variety of sizes may be used (Col 6, lines 24-26), and that the preferable size is 50" wide and 32"high,

which is a ratio of 1.56, therefore between the ranges of 0.5 to 3.0, 1.0 to 2.5, and 1.5 to 2.0.

Regarding claims 5 and 6, DiTullio fails to disclose the acircular shape. Fouss teaches an acircular shape to provide the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). Yet Fouss fails to disclose whether the inner height is up to about 49%, or about 44-48% of a major axis associated with the shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shape of the chamber of DiTullio to be acircular taught by Fouss, since Fouss states that such a shape provides the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner height of the acircular shape of Fouss to be about 49%, or about 44-48% of a major axis associated with the shape, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

Regarding claim 7, DiTullio discloses a flange extending outward from a base, seen as the bottom of base portion (26) in Fig. 1. A support member disposed longitudinally on the flange is seen as the top of base portion (26) in Fig. 1.

Regarding claim 8, DiTullio illustrates the base portion (26) spanning tow or more corregations, seen as rib members (18) in Fig. 1.

Regarding claim 9, DiTullio discloses the limitations of the claimed invention except for the base portion (26) disposed intermittently. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the base portion of DiTullio to be intermittent, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman,* 168 USPQ 177, 179.

Regarding claim 10, DiTullio discloses connecting elements seen as lugs (24) in Fig. 1, which are disposed between ribs (18) and base portion (26).

Regarding claim 11, DiTullio discloses a flange, seen as base portion (26) in Fig. 1, and connecting elements seen as lugs (24) in Fig. 1, which are disposed on the base portion (26), perpendicular to a longitudinal axis.

Regarding claims 12, 13, 14, and 15, DiTullio discloses that the units are molded from a plastic resin such as high density polyethylene, but it should be apparent to those skilled in the art that it may be manufactured from other suitable materials (Col 6, lines 16-23). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the material used by DiTullio to be polyolefin or polypropylene, since DiTullio states in column 6, lines 16-23 that it should be apparent to those skilled in the art that it may be manufactured from other suitable materials. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material o n the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin,* 125 USPQ 416.

Regarding claims 16, 17, and 18, DiTullio discloses that the units are molded from a plastic resin such as high density polyethylene, but it should be apparent to those skilled in the art that it may be manufactured from other suitable materials (Col 6, lines 16-23). DiTullio fails to disclose the desired flexural modulus range. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the material used by DiTullio to have a flexural modulus of 500MPa or greater, or about 800-3000MPa, or about 900-2300MPa, since DiTullio states in column 6, lines 16-23 that it should be apparent to those skilled in the art that it may be manufactured from other suitable materials, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin,* 125 USPQ 416. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

Regarding claim 19, DiTullio illustrates a plurality of corregations, seen as rib members (18) in Fig. 1, which are disposed perpendicular to a major axis of the gallery (10).

Regarding claims 20, 21, and 22, DiTullio illustrates rib member (18) in Figs. 12 and 13 as having sides oriented at an angle, though it is unclear exactly what the precise degree of the angle is. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the angular orientation of the sides of the ribs of DiTullio to be up to about 45

degrees, or about 3-25 degrees, or about 5-25 degrees, since Figs. 12 and 13 of DiTullio appear to illustrate the sides of the ribs (18) orientated at an angle of maybe 10-40 degrees, as can be best determined from the drawings. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

Regarding claim 23, DiTullio discloses one or more supporting elements on a flange, seen as the top protruding portion of base portion (26) on the bottom of the base portion (26) in Fig. 1. DiTullio illustrates one or more connected members disposed on the flange perpendicular to the chamber and supporting element, seen as lugs (24) in Fig. 1

Regarding claim 24, DiTullio discloses endplates, seen as endwalls (28, 30) in Fig. 1.

Regarding claims 25 and 26, DiTullio discloses that a variety of sizes may be used (Col 6, lines 24-26), and that the preferable size is 50" wide and 32"high, which is a ratio of 1.56, therefore meeting the limitations of up to about 3, and 1.25 to 2.

Regarding claim 27, DiTullio illustrates the attachment of subsequent chambers in fluid communication with the first chamber in the embodiment of Fig. 14. The single chamber in Fig. 1 depicts the endwalls (28, 30).

Regarding claim 28, DiTullio discloses a baffle having an opening to allow fluid passage through the baffle, seen as apertures (22) in Figs. 1 and 14. Fig.

14 illustrates the overlapping section the baffle disposed in the overlapping section.

Regarding claim 29, DiTullio illustrates in Fig. 2 the gallery (10) disposed in the ground. DiTullio notes that crushed stone gravel (66) is added to trench (52) and the entire structure is covered by a layer of tar paper, salt hay or woven plastic cloth and topsoil (Col 5, lines 38-42). DiTullio fails to disclose that there is at least about 18 inches of compacted cover. Yet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the depth of the galleries of DiTullio so that at least 18 inches of compacted cover lie above, since the desired depth will depend on the specific application, environmental conditions, material and strength characteristics, etc. DiTullio also fails to disclose a safety rating of greater than or equal to about 1.95 under AASHTO H-20. Yet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the galleries of DiTullio to have a safety rating of greater than or equal to about 1.95 under AASHTO H-20, since this merely requires meeting design requirements which would be mandatory upon installation.

Regarding claim 30, DiTullio discloses a method of fluid management, wherein Fig. 2 illustrates galleries (10) disposed below the ground surface. DiTullio fails to disclose the galleries are at least about 6 inches below the ground surface. Yet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the depth of the galleries of DiTullio to be at least 6 inches, since the desired depth will depend on the

specific application, environmental conditions, material and strength characteristics, etc. Fouss teaches a semicircular, constant curve cross-sectional geometry for a fluid management system to provide the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shape of the chamber of DiTullio to be a semicircular, constant curve cross-sectional geometry as taught by Fouss, since Fouss states that such a shape provides the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48).

Regarding claims 31, 32, and 33, DiTullio discloses that a variety of sizes may be used (Col 6, lines 24-26), and that the preferable size is 50" wide and 32"high, which is a ratio of 1.56, therefore between the ranges of 0.5 to 3.0, 1.0 to 2.5, and 1.5 to 2.0.

Regarding claims 34 and 35, DiTullio fails to disclose the acircular shape. Fouss teaches an acircular shape to provide the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). Yet Fouss fails to disclose whether the inner height is up to about 49%, or about 44-48% of a major axis associated with the shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the shape of the chamber of DiTullio to be acircular taught by Fouss, since Fouss states that such a shape provides the desired compressive strength under the loading conditions (Col 3, lines 43-56 and Col 4, lines 29-48). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the inner height of the acircular shape of Fouss to be about 49%, or about 44-48% of a major axis associated with the shape, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. DiTullio (US 6,322,288B1) discloses a storm or water chamber. Nichols et al (US 4,759,661) and Nichols (US 5,401,116) disclose leaching system conduits. Gray (US 5,441,363), Sidaway et al (US 5,556,231), Gray (US 6,076,993), Gray (US 6,270,287B1), Nichols (US 5,839,844), and Nichols (US 5,511,903) disclose leaching chambers. Fouss et al (US 4,245,924) discloses an arch conduit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
1/8/02